

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)

Long, et al.

Examiner:

Unassigned

Serial No.:

10/616,278

Group Art Unit:

1614

Confirmation No:

2088

Docket:

1341-2

Filed:

July 9, 2003

Dated:

December 24, 2003

For:

PREPARATION OF

HYALURONIC ACID FROM

EGGSHELL MEMBRANE

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

I hereby certify this correspondence is being deposited with the United States Postal Service as first class mail, postpaid in an envelope, addressed to:

Commissioner for Patents, P.O. Box 1450,

Alexandria, Virginia 22313-1450

on <u>December 24, 2003</u>

Signed:

INFORMATION DISCLOSURE STATEMENT

Sir:

In order to fulfill the requirements of candor and good faith set forth in 37 C.F.R. §1.56, Applicants submit herewith the following Information Disclosure Statement in accordance with the provisions of 37 C.F.R. §1.97 and §1.98.

UNITED STATES PATENTS

<u>PATENTEE</u>	PATENT NO.	ISSUE DATE
Neuhauser	3,194,732	July 13, 1965
Balazs	4,141,973	February 27, 1979
Bracke et al.	4,517,295	May 14, 1985
Balazs et al.	4,713,448	December 15, 1987
Sakurai et al.	4,716,224	December 29, 1987

Nimrod et al.	4,784,990	November 15, 1988
Cullis-Hill	4,879,375	November 7, 1989
Diot et al.	4,992,264	February 12, 1991
Balazs et al.	5,099,013	March 24, 1992
Noel	5,141,964	August 25, 1992
della Valle et al.	5,166,331	November 24, 1992
Brown et al.	5,316,926	May 31, 1994
Ellwood et al.	5,411,874	May 2, 1995
Kakoki et al.	5,415,875	May 16, 1995
Abad	5,538,740	July 23, 1996
Yamaguchi et al.	5,460,832	October 24, 1995
Romeo et al.	5,559,104	September 24, 1996
Callegaro et al.	5,646,129	July 8, 1997
Mälson et al.	5,783,691	July 21, 1998
della Valle et al.	5,925,626	July 20, 1999
Lezdey et al.	5,869,063	February 9, 1999
Moy	5,928,659	July 27, 1999
Burns et al.	6,030,958	February 29, 2000
Mohammadi	6,217,913 B1	April 17, 2001
Falk et al.	6,218,373 B1	April 17, 2001
Wolfinbarger, Jr.	6,337,389 B1	January 8, 2002
Pillai et al.	6,399,083 B1	June 4, 2002

NON-PATENT PUBLICATIONS

- 1. Nakano T., Ikawa NI, Ozimek., "Chemical composition of chicken eggshell and shell membranes," *Poult Sci.* 2003, 82(3):510-4 [Abstract].
- 2. Dupoirieux L., Pourquier D., Picot MC, Neves M., "Comparative study of three different membranes for guided bone regeneration of rat cranial defects," *Int J Oral Maxillofac Surg* 2001, 30(1):58-62 [Abstract].
- 3. Hincke MT, Gautron J., Panheleux M., Garcia-Ruiz J., McKee MD, Nys Y., "Identification and localization of lysozyme as a component of eggshell membranes and eggshell matrix," *Matrix Biol* 2000, 19(5):443-53 [Abstract].
- 4. Dupoirieux L., Neves M., Pourquier D., "Comparison of pericranium and eggshell as space fillers used in combination with guided bone regeneration: an experimental study," J Oral Maxillofac Surg 2000, 58(1):40-6 [Abstract].
- 5. Arias JL, Nakamura O, Fernandez MS, Wu JJ, Knigge P, Eyre DR, Caplan Al, "Role of type X collagen on experimental mineralization of eggshell membranes," *Connect Tissue Res* 1997, 36(1):21-33.
- 6. Arias JL, Fernandez MS, Dennis JE, Caplan Al, "Collagens of the chicken eggshell membrane," *Connect Tissue Res* 1991, 26(1-2):37-45 [Abstract].
- 7. Starcher BC, King GS, "The presence of desmosine and isodesmosine in eggshell membrane protein," Connect Tissue Res 1980, 8(1):53-5 [Abstract].
- 8. Osuoji CI, "Acid glycosaminoglycan of eggshell membranes," *Biochim Biophys Acta* 1971, 244(2):481-3.
- 9. Gautron J, Hincke MT, Panheleux M, Garcia-Ruiz JM, Boldicke T, Nys Y, "Ovotransferrin is a matrix protein of the hen eggshell membranes and basal calcified layer," Connect Tissue Res 2001, 42(4):255-67 [Abstract].
- 10. Akagawa M, Wako Y, Suyama K, "Lysyl oxidase coupled with catalase in egg shell membrane," *Biochim Biophys Acta* 1999, 1434(1):151-60 [Abstract].
- 11. Suyama K, Fukazawa Y, Umetsu Y, "A new biomaterial, hen egg shell membrane, to eliminate heavy metal ion from their dilute waste solution," *Appl Biochem Biotechnol* 1994, 45-46:871-9[Abstract].
- 12. Arias JL, Fernandez MS, Dennis JE, Caplan AL, "The fabrication and collagenous substructure of the eggshell membrane in the isthmus of the hen oviduct," *Matrix* 1991, 11(5):313-20[Abstract].
- 13. U.S. Department of Agriculture, Avian Physiology Laboratory, Beltsville, Maryland 20705, "Levels of calcium and soluble collagen in turkey egg shell membranes," Comp Biochem Physiol A 1988, 90(3):421-4[Abstract].

- 14. Leach RM Jr, Rucker RB, Van Dyke GP, "Egg shell membrane protein: a nonelastin desmosine/isodesmosine-containing protein," Arch Biochem Biophys 1981, 207(2):353-9[Abstract].
- 15. Crombie G, Snider R, Faris B, Franzblau C, "Lysine-derived cross-links in the egg shell membrane," *Biochim Biophys Acta* 1981, 640(1):365-7[Abstract].
- 16. Harris ED, Blount JE, Leach RM Jr., "Localization of lysyl oxidase in hen oviduct: implications in egg shell membrane formation and composition," *Science* 1980, 208(4439):55-6[Abstract].
- 17. Stevenson IL, "The removal of egg shell membranes by enzyme treatment to facilitate the study of shell microstructure," *Poult Sci* 1980, 59(8):1959-60[Abstract].
- 18. Picard J, Paul-Gardais A, Vedel M., "[Sulfated glycoproteins from egg shell membranes and hen oviduct. Isolation and characterization of sulfated glycopeptides (author's transl)]," *Biochim Biophys Acta* 1973, 320(2):427-41[Abstract].
- 19. Robinson DS, King NR, "Mucopolysaccharides of an avian egg shell membrane," JR Microsc Soc 1968, 88(1):13-22[Abstract].
- 20. Powrie William, Nakai S., "The Chemistry of eggs and egg products," Egg Science and Technology 1990, 97-139.
- Wu Tzong-Ming, Rodriguez Juan Pablo, Fink David, Carrino David, Blackwell John, Caplan Arnold, Heuer Arthur, "Crystallization Studies on Avian Eggshell Membranes: Implications for the Molecular Factors Controlling Eggshell Formation," Matrix Biology 1995, 14:507-513.
- 22. Hall David, "The Colorimetric Estimation of Uronic Acid," The Methodology of Connective Tissue Research 1976, 253-256.
- Wong Mitchell, Hendrix Mary J.C., Mark Klaus von der, Little Charles, Stern Robert,
 "Collagen in the Egg Shell Membrane of the Hen," *Developmental Biology* 1984
 104:8-36.
- 24. Gautron, Bain M., Solomon S, NYS Y., "Soluble matrix of hen's eggshell extracts changes in vitro the rate of calcium carbonate precipitation and crystal morphology," *British Poultry Science* 1996 37, 853-866.
- 25. Tomihata Kenji, Ikada Yoshito, "Crosslinking of hyaluronic acid with water-soluble carbodiimide," *J Biomed Mater Res*, 1997, 37, 243-251.
- Carrino David, Dennis James, Wu Tzong-Ming, Arias Jose, Fernandez Maria, Rodriguez Juan, Fink David, Heuer Arthur, Caplan Arnold, "The Avian Eggshell Extracellular Matrix as a Model for Biomineralization," Connective Tissue Research, 1996, 35(1-4), 325-329.

27. Hincke M.T., Tsang C.P.W., Courtney M, Hill V, Narbaitz R., "Purification and Immunochemistry of a Soluble Matrix Protein of the Chicken Eggshell," *Calcif Tissue Int*, 1995, 56:578-583.

The above-referenced documents are listed on PTO Form 1449. We have enclosed the cited documents to facilitate reference to them.

Applicants are not aware of any other references to be identified at this time. If the Examiner has any questions or comments relating to the present application, he or she is respectfully invited to contact Applicants' attorney at the telephone number set forth below.

Respectfully submitted,

Robert C. Morriss

Registration No.: 42,910 Attorney for Applicant(s)

HOFFMANN & BARON, LLP 6900 Jericho Tumpike Syosset, New York 11791 (516) 822-3550 RCM:me/jp

182573_1

OVE	E
DEL 29	<u>.</u>
ALEST & TRA	FORM 2-32)

1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP 1614

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
		U.S. PA	TENT DOCUMEN	TS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
CK	3,194,732	07/13/65	Neuhauser	9 0 0			
1	4,141,973	02/27/79	Balazs	manager			
	4,517,295	05/14/85	Bracke et al.	·			
	4,713,448	12/15/87	Balazs et al.	* promisery periods and a first		·	
	4,716,224	12/29/87	Sakurai et al.				
	4,784,990	11/15/88	Nimrod et al.				
GK	4,879,375	11/07/89	Cullis-Hill				
		FOREIGN	PATENT DOCUM	ENTS			
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER	DAIL		-	CLASS	YES	NO _
<u>O</u>	THER DOCUM	ENTS (Includ	ding Author, Title, I	Date, Pertine	ent Pages,	Etc.)	
GK	Nakano membr	o T., Ikawa NI, anes," <i>Poult Sci</i>	Ozimek., "Chemical co i. 2003, 82(3):510-4 [A	mposition of c	hicken eggs	shell and sh	ell
	C. tri,		DATE CONSIDER		1001	04	

DE 2 9 2003 C FORMS TO-1

TO-1449 U.S. DEPARTMENT OF COMMERCE 2-32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO. 1341-2	SERIAL NO. 10/616,278
APPLICANT Long, et al.	CONFIRMATION NO. 2088
FILING DATE July 9, 2003	GROUP 1614

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
		II S PA	TENT DOCUMEN	ITS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
GK	4,992,264	02/12/91	Diot et al.				
	5,099,013	03/24/92	Balazs et al.				
	5,141,964	08/25/92	Noel				
	5,166,331	11/24/92	Della Valle et al.				
	5,316,926	05/31/94	Brown et al.	a company a communication of the communication of t			
CoK	5,411,874	05/02/95	Ellwood et al.				
		FOREIGN	PATENT DOCUM	ENTS			
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER	DATE			CLASS	YES	NO
	TUED DOCUM	ENTS (Inclu	ding Author, Title, I	Date Pertine	ent Pages.	Etc.)	٠
(~X	Dupoir membr	ieux I Pourai	nier D., Picot MC, Nevel bone regeneration of ra	s M., "Compai	rative study	of three dif	ferent fac Surg

DEC 2 9 2003 FOR NO TO 2-32

TO-1449 U.S. DEPARTMENT OF COMMERCE 2-32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
		U.S. PA	FENT DOCUMENT	rs			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
GX	5,415,875	05/16/95	Kakoki et al.				
	5,538,740	07/23/96	Abad	Manager day and see of			
	5,460,832	10/24/95	Yamaguchi et al.				
	5,559,104	09/24/96	Romeo et al.				
	5,646,129	07/08/97	Callegaro et al.	May 1			
CK	5,783,691	07/21/98	Malson et al.				
		FOREIGN I	PATENT DOCUME	ENTS		,	
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER	J			CLASS	YES	NO
O'	THER DOCUME	ENTS (Includ	ing Author, Title, D	ate, Pertine	ent Pages,	Etc.)	
	Hincke and loc	MT, Gautron J. alization of lyso	, Panheleux M., Garcia-l zyme as a component of):443-53 [Abstract].	Ruiz J., McK	ee MD, Ny	s Y., "Ident	ification natrix,"

EXAMINER	Con Kozin	DATE CONSIDERED	3	10	04	
					. – –-	

DET 2	s sous E	.44
		•
	EXAMINER INITIAL	
	EXAMINER INITIAL	
	C.K.	
	· · · · · · · · · · · · · · · · · · ·	1

TO-1449 U.S. DEPARTMENT OF COMMERCE -32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIAT	
		•					
		U.S. PA	TENT DOCUMEN	TS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
C.K.	5,925,626	07/20/99	Della Valle et al.	•	garage (* to ett) je proposovanja opravni		
<u> </u>	5,869,063	02/09/99	Lezdey et al.	No tempor to de procumentamen e la	description of Section Columbia Company Section 2		
	5,928,659	07/27/99	Moy		The last territory of the second		
	6,030,958	02/29/00	Burns et al.				
	6,217,913 B1	04/17/01	Mohammadi	, in the second	A Company of the Comp		
(SK	6,218,373 B1	04/17/01	Falk et al.				
		FOREIGN	PATENT DOCUM	ENTS			
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	ISLATION
INITIAL	NUMBER	DATE	COUNTRY	CDSS	CLASS	YES	NO
07	THER DOCUME	NTS (Inclu	ding Author, Title, D	ate. Pertine	ent Pages	Etc.)	
GK	Dupoiri fillers u	eux L., Neves sed in combina	M., Pourquier D., "Comp tion with guided bone re 58(1):40-6 [Abstract].	parison of per	icranium an	id eggshell	as space J Oral

EXAMINER (SCHOOL DATE CONSIDERED SIDE OF CONFORMANCE WITH MPE

O 1 P E 6 PTO-1

PTO-1449 U.S. DEPARTMENT OF COMMERCE 2-32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
		II S PA	TENT DOCUMENT	rs -			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
GK	6,337,389 B1	01/08/02	Wolfinbarger, Jr.	page 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
GK_	6,399,083 B1	06/04/02	Pillai et al.	<u> </u>			
		FOREIGN	PATENT DOCUME	ENTS			
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER				CLASS	YES	NO
07 C> K	Arias J X colla	L. Nakamura O	ling Author, Title, D , Fernandez MS, Wu JJ, ental mineralization of e	Knigge P. Ey	те DR, Cap	olan Al, "Ro	ole of type se Res
<u></u>	1,221,3	0(1).21 55.					•

DEL 2	9 2003 💆	44
		(
	EXAMINER INITIAL	
	EXAMINER INITIAL	

- 144	ο.	11 <	DEDA	DT	MENT	OF (COMP	AFR(~F
									_
))	DAT	TENT	AND	TR	ADFM	ΔRK	OFFI	CF	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE July 9, 2003	GROUP 1614

		U.S. PA	TENT PUBLICATION	ONS	,		
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME .	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE	
		U.S. PA	ATENT DOCUMEN	TS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
							-
		FOREIGN	PATENT DOCUM	ENTS	1		
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATIO	
INITIAL	NUMBER					YES	NO
					İ		
01	THER DOCUME	NTS (Inclu	ding Author, Title, D	Date. Pertine	ent Pages.	Etc.)	
GK	Arias JI	, Fernandez N	1S, Dennis JE, Caplan A Tissue Res 1991, 26(1-2)	l, "Collagens	of the chick		
GK			t, "The presence of desmi sue Res 1980, 8(1):53-5 [lesmosine ii	n eggshell r	nembrane
GK	Osuoji (osaminoglycan of eggshe	ell membranes	s," Biochim	Biophys Ac	eta 1971,

			1		1
EXAMINER	Br. Kerzyl-z	DATE CONSIDERED	` <i>§</i> ((0)	04

. /	011	PE		
	DEC 2	9 2003	ह्ये	
12		FORM)-1
K	ETE TRA	Rec	% -32	2)

-1449 U.S. DEPARTMENT OF COMMERCE) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO. 10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATION	NS		,	
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIAT	
		U.S. P.	ATENT DOCUMEN	ГS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
		FOREIGN	N PATENT DOCUMI	ENTS			
EXAMINER	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRAN	SLATION
INITIAL	NOMBER				CLASS	YES	NO
O1	THER DOCUME	NTS (Incl	iding Author, Title, D	ate, Pertine	nt Pages.	Etc.)	•
GK	Gautron a matrix	J, Hincke M protein of th	T, Panheleux M, Garcia-R e hen eggshell membranes 67 [Abstract].	uiz JM, Bold	icke T, Nys	Y, "Ovotr	
GK			', Suyama K, "Lysyl oxida Biophys Acta 1999, 1434			in egg she	11
Col	eliminat		Y, Umetsu Y, "A new bill ion from their dilute was				

EXAMINER G. K4Z DATE CONSIDERED	, [(0)	OLI
---------------------------------	-----	-----	-----

./	,,17	E	
	DEC 2	2003	(g)
P	TAIRAL	FOR P	У го 2-32

70-1449 U.S. DEPARTMENT OF COMMERCE -32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATION	ONS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS					
		· !								
		U.S. P	ATENT DOCUMEN	TS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE			
		FOREIG	N PATENT DOCUM	ENTS						
EXAMINER	DOCUMENT DATE COUNTRY CLASS SUB TRANSLATION									
INITIAL	NUMBER	DATE	COUNTRY	CLASS	CLASS	YES	NO			
O	THER DOCUME	NTS (Incl	uding Author, Title, D	ate Pertine	nt Pages	Etc.)				
Cla	Arias JL substruc	, Fernandez	MS, Dennis JE, Caplan A	L, "The fabric	ation and c	ollagenous	991,			
GK	"Levels	of calcium a	Agriculture, Avian Physiol nd soluble collagen in turk):421-4[Abstract].							
CL		ne/isodesmos	RB, Van Dyke GP, "Egg sine-containing protein,"							

EXAMINER	Cokazz.	DATE CONSIDERED	3	10	OL	j
						$\overline{}$

1 .	9 2003 C FORGATO-1 (DECIMAL 2-32)	44
		(
	EXAMINER INITIAL	

O-1449 U.S. DEPARTMENT OF COMMERCE 32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT Long, et al.	CONFIRMATION NO. 2088
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATIO	NS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
			,				
		U.S. P	ATENT DOCUMENT	rs			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
		FOREIGN	N PATENT DOCUME	ENTS			
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER				CLASS	YES	NO
O	THER DOCUME	NTS (Incl	iding Author, Title, Da	ate. Pertine	nt Pages.	Etc.)	
	Crombia	e G, Snider R	, Faris B, Franzblau C, "Ly Biophys Acta 1981, 640(1	ysine-derived	cross-links		shell
Gk.	implicat		, Leach RM Jr., "Localizat nell membrane formation a ract].				
GK			emoval of egg shell membi ructure," <i>Poult Sci</i> 1980, 5				ate the

Dill Contribution	EXAMINER G. K922	- DATE CONSIDERED	3/10/	oL
-------------------	------------------	-------------------	-------	----

./	01	PE	र्	.
PE	DEL 2	FORM (Rev	1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3))-1 2)

1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY, DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT Long, et al.	CONFIRMATION NO. 2088
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATION	ONS					
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		S DATE OPRIATE		
			·						
		U.S. P.	ATENT DOCUMEN	TS					
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE		
		FOREIGN	N PATENT DOCUM	ENTS					
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRANSLATION			
INITIAL	NUMBER				CLASS	YES	NO		
					, , , , , , , , , , , , , , , , , , , ,				
O	THER DOCUME	ENTS (Inclu	ıding Author, Title, I	Date, Pertine	nt Pages,	Etc.)			
CK	hen ovi	duct. Isolation	s A, Vedel M., "[Sulfated n and characterization of a 1973, 320(2):427-41[Al	sulfated glyco	s from egg s peptides (a	shell memb uthor's tran	oranes and		
GK		on DS, King N i8, 88(1):13-2	NR, "Mucopolysaccharide 2[Abstract].	es of an avian o	egg shell m	embrane,"	JR Microso		
Colc		William, Nak	ai S., "The Chemistry of	eggs and egg p	products," E	Egg Science	and		

		`Z.	(0)	6)11
EXAMINER (KTZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ	DATE CONSIDERED		((3)	04

DEC 2 9 2003 CO

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE
2-32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT Long, et al.	CONFIRMATION NO.
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATIO	NS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
	•	U.S. P	ATENT DOCUMENT	`S			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPR	DATE OPRIATE
		FOREIG	N PATENT DOCUME	NTS			
EXAMINER	DOCUMENT		COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER	DATE	COONTRY	CDASS	CLASS	YES	NO
					_		
O	THER DOCUME	NTS (Incl	uding Author, Title, Da	ite, Pertine	ent Pages,	Etc.)	
GK	Wu Tzo Arnold,	ng-Ming, Ro Heuer Arthu	odriguez Juan Pablo, Fink D r, "Crystallization Studies of etors Controlling Eggshell	Pavid, Carrin on Avian Egg Formation,"	o David, Bl gshell Mem	ackwell Joh branes: Imp	olications
(=k		vid, "The Co Pesearch 197	lorimetric Estimation of Ur 6, 253-256.	onic Acid,"	The Method	lology of Co	onnective
23-1K			drix Mary J.C., Mark Klaus Shell Membrane of the He				

EXAMINER (3. 1922	(DATE CONSIDERED	.5	(6)	104

DEC 2 9 2003

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Rev. 2-32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATION	ONS				
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE	
			·		<u>.</u>			
		U.S. P	ATENT DOCUMEN	TS				
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE		
-								
		FOREIG	N PATENT DOCUM	ENTS				
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION	
INITIAL	NUMBER	DATE	COUNTRY	CD.03	CLASS	CLASS	YES	NO
OT	THER DOCUME	ENTS (Incl	uding Author, Title, I	Date, Pertine	ent Pages,	Etc.)		
GK	vitro the	n, Bain M., So e rate of calci 1996 37, 853	olomon S, NYS Y., "Solu um carbonate precipitation 3-866.	ble matrix of l on and crystal i	nen's eggsh norphology	ell extracts ," British F	changes in Poultry	
GK GK	Tomiha carbodi	ta Kenji, Ikao imide," <i>J Bio</i>	da Yoshito, "Crosslinking med Mater Res, 1997, 37	of hyaluronic , 243-251	acid with v	vater-solub	le	
Cak	Juan, F	ink David, He	is James, Wu Tzong-Min cuer Arthur, Caplan Arno cralization," Connective T	ld, "The Aviar	Eggshell E	Extracellula	r Matrix as	

EXAMINER (=	Korzial	DATE CONSIDERED	\mathcal{E}	(0)	04	!.

ORM PTO-1449 U.S. DEPARTMENT OF COMMERCE Rev. 2-32) PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
1341-2	10/616,278
APPLICANT	CONFIRMATION NO.
Long, et al.	2088
FILING DATE	GROUP
July 9, 2003	1614

		U.S. PA	TENT PUBLICATI	ONS		·	
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS		DATE OPRIATE
		U.S. PA	TENT DOCUMEN	ITS	· <u>—</u>		
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING IF APPRO	
		FOREIGN	PATENT DOCUM	ENTS			
EXAMINER	DOCUMENT	DATE	COUNTRY	CLASS	SUB	TRAN	SLATION
INITIAL	NUMBER				CLASS	YE\$	NO
							- · · · · · ·
O7	THER DOCUME	NTS (Includ	ling Author, Title, I	Date, Pertine	nt Pages,	Etc.)	
Cx	Hincke Jmmuno	M.T., Tsang C	P.W., Courtney M, Hill Soluble Matrix Protein	V, Narbaitz R	, "Purifica	tion and	sue Int,
2770_1		l			. 1	1 - 1	
EXAMINER ((= 10 Z.	L	DATE CONSIDER	ED S	- (()	104	